

VASCULAR DEMENTIA

What causes Vascular Dementia?

Vascular dementia occurs when the blood supply to the brain is inadequate. This reduces the supply of nutrients and oxygen to brain cells and they die. Usually, the problem is caused by blood vessel damage; either the blood vessel slowly blocks up or clots form on the damaged blood vessel wall, then break off and are carried into the brain where they lodge in a smaller vessel causing a stroke. Occasionally bleeding into the brain can be the problem.

Types of Vascular Dementia:

Multi-infarct dementia

Multiple small strokes or TIAs (causing temporary or permanent brain damage from poor blood supply) eventually do enough damage to the brain for dementia to become apparent. These events are often unnoticed by the person or family. The person may also have rapid mood changes, emotional overreactions, or depression. The condition progresses as more strokes occur. This might be in a “stepwise” fashion with each stroke, or gradually.

Subcortical dementia

This is associated with damage to the small vessels deep in the brain. There are changes in thinking/reasoning ability, memory, movement (including walking), behaviour and bladder control. The symptoms gradually worsen over time as more damage occurs.

Strategic Infarct dementia

This occurs when a single large stroke suddenly causes dementia symptoms which will depend on the part of the brain affected. A person may remain stable with this condition or even improve, but this will depend on the state of the brain’s blood supply and whether there are further strokes.

Who gets Vascular Dementia?

Vascular dementia is the second most common type of dementia after Alzheimer’s Disease. The prevalence of vascular dementia increases with increasing age and is higher in men than women. The risk factors for vascular dementia are the same as those for ischaemic heart disease: high blood pressure, obesity, smoking, and high cholesterol. If these factors remain untreated the blood vessels will be damaged. There are some other factors, such as an irregular heartbeat or heart valve damage that can cause clots to form and travel to the brain, as well as some other rare forms of blood vessel damage. 20 to 30% of individuals develop dementia in the 3 months after a stroke. People with Alzheimer’s may also have vascular dementia in which case it is called “mixed” dementia.

How is the diagnosis made?

Once the doctor, usually a GP has made the diagnosis of dementia, s/he will look for a cause. The characteristics of vascular dementia are lack of prominent memory symptoms, emotional changes, fluctuating decline in cognition and evidence anywhere of vascular (blood vessel) problems. Further neuropsychological testing can help distinguish vascular from other forms of dementia and measure areas of cognitive strength and weakness. The medical history may reveal past heart attack, poor blood supply to the feet or previous strokes or brief neurological episodes (TIAs) such as passing slurring of speech, double vision or collapses that subsequently resolve.

Full physical examination may show stroke-related abnormalities of the nervous system, heart irregularities or murmurs, poor blood supply to the feet or narrowing of the carotid arteries, the main blood supply to the brain. Blood tests can show whether there is anything else causing the problem and whether there is anything likely to make things worse (e.g., diabetes). An ECG will check for heart rhythm abnormalities and an echocardiogram of the heart looks for clots that might be moving to the brain. Ultrasound of the carotid arteries in the neck looks for sources of clots that go to the brain. CT or MRI scans help to find areas of brain damage and confirm that the blood supply is poor or that there have been strokes.

What is the treatment?

While there is no specific treatment for dementia it may be possible to improve the brain blood supply and to prevent more strokes. Dealing with any specific heart and blood vessel problems can help. This may require anticoagulant treatment such as warfarin or aspirin to stop clotting. Controlling high blood pressure, cholesterol, diabetes will reduce blood vessel damage as will stopping smoking, maintaining physical exercise, weight loss and good diet. The medications used for Alzheimer's and Lewy Body dementia are not particularly useful in vascular dementia (unless it is mixed with either of those). It is important to treat depression as this can make cognitive impairment worse.

References

American Psychiatric Association (2013) Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM 5). Arlington VA.

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This publication provides a general summary only of the subject matter covered. People should seek professional advice about their specific case. The content was adapted from Alzheimer's Australia who have generously consented to their work being used. Written and peer reviewed: 2017 by Dr Chris Perkins and Dr Richard Worrall, Psychiatrists of Old Age. Reviewed by Dr Tina Crownshaw, Psychiatrist of Old Age 2023.

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